



# WATER RECYCLING

Just Doing What Comes Naturally

# SANITATION DISTRICTS' WASTEWATER TREATMENT FACILITIES

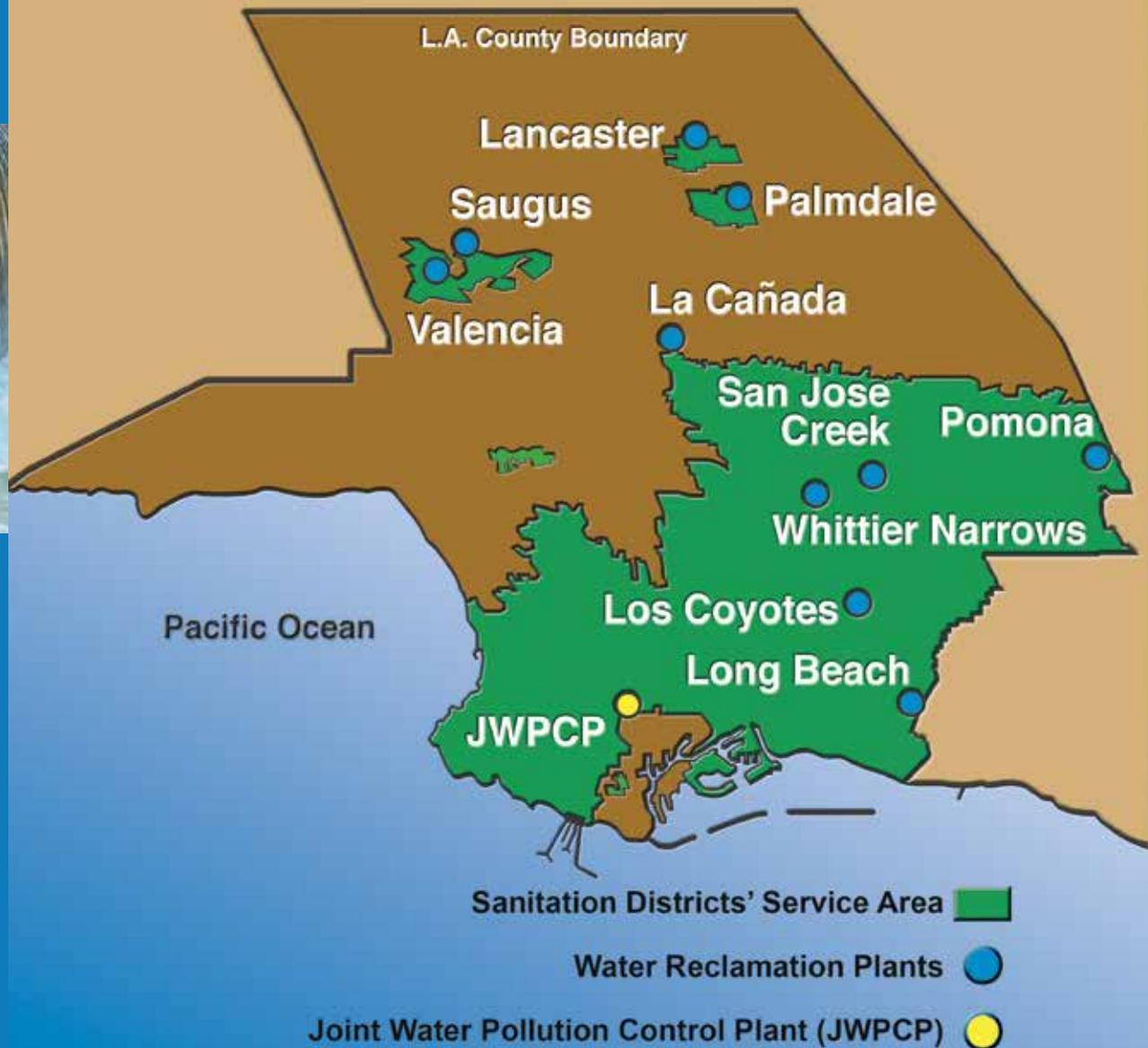


Recycled  
Water

The Sanitation Districts' 11 wastewater treatment plants serve about 5.5 million people in 78 cities and unincorporated areas within Los Angeles County. Ten water reclamation plants, stretching from the high desert to the Pacific Ocean, produce nearly 146 million gallons of recycled water each day, available to be either filtered through the soil to recharge the groundwater or utilized at more than 750 local reuse sites throughout the county.

The treated water from the Joint Water Pollution Control Plant (JWPCP), located in Carson, is too salty to reuse without further advanced treatment and is currently released into the ocean.

Photos on front cover, day lily, Pacific Palms Golf Course in the City of Industry, and agricultural irrigation in the Antelope Valley.



# DROUGHT-PROOFING LA

## THE ENVIRONMENTALLY SOUND AND COST-EFFECTIVE WAY

The Sanitation Districts have a proud tradition of providing economical, high-quality wastewater management for Los Angeles County. Operating the largest engineered system of wastewater recycling plants in the world, the Sanitation Districts help about 5.5 million area residents “go with the flow” every day by delivering clean, recycled water throughout drought-prone Southern California.

Wastewater isn't just water from toilets. It comes from many sources in the home, including washing machines, sinks, and showers, as well as from commercial and industrial processes. Wastewater recycling replicates the natural processes to offer an environmentally sound and cost-effective way to remove the waste and reclaim that water. Production of nearly 146 million gallons of recycled water per day allows a significant reduction in the Los Angeles Basin's dependence on costly imported water and helps to replenish the groundwater used by a large percentage of the region. Electricity and soil amendment are also produced during the water recycling process – important resources that help enhance the environment.



Photos of recycled water uses, left to right, habitat in the Santa Clara River, the waterfowl preserve at Piute Ponds in Lancaster, irrigation at Rose Hills Cemetery in Whittier, Shaw Carpet Mill in Santa Fe Springs, and Pacific Palms Golf Course in the City of Industry.

## WE TAKE OUR CUE FROM MOTHER NATURE TO CREATE CLEAN RECYCLED WATER

When it comes to recycling wastewater, no one is a better teacher than Mother Nature. After all, she's been doing it since the beginning of time through her own purification system of lakes, streams, and rivers. The Sanitation Districts' water reclamation plants literally replicate what happens in nature. They just speed up the process and do it in modern, high-tech facilities.

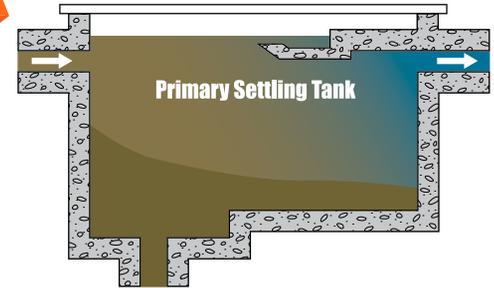
As the population grows, so does the need for new sources of water. Next to water conservation, water recycling is the only significant “new” source of water that can meet the domestic, industrial, and environmental demands that are increasing on a daily basis.

# WATER RECYCLING

## IT'S AS SIMPLE AS 1, 2, 3

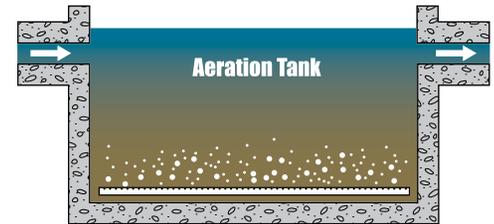
### 1. PRIMARY TREATMENT: remove solid materials

When rain runoff first enters a river, heavier solid particles settle to the bottom while lighter materials float to the top and are carried away. At the water reclamation plant, long concrete tanks duplicate what nature does in the river. After the solid materials (both sinking and floating) are removed for further treatment, the remaining wastewater containing dissolved and suspended materials (mostly organic) moves to the second phase of treatment.



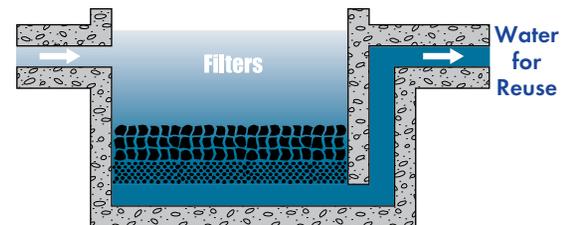
### 2. SECONDARY TREATMENT: biodegrade organic materials

As water in a river flows downstream, naturally occurring microorganisms feed on the dissolved organic materials. As the river flows downstream, oxygen naturally enters the water so the organisms can breathe. At the water reclamation plant, air is fed mechanically into aeration tanks. The same microorganisms in the wastewater grow as they feed on the organic materials in these tanks. In secondary treatment settling tanks, the microorganisms clump together and settle to the bottom, where they are removed and recycled back into the treatment process.



### 3. TERTIARY TREATMENT: eliminate fine particulates

Finally, in a natural river, the clean water soaks into the ground beneath the river and combines with the underground water supply. The ground is replaced at the water reclamation plant by filters, which remove any remaining suspended materials from the water. The water is then disinfected. It is now free of harmful bacteria and viruses and safe for human contact, replenishing groundwater, or for a wide variety of other uses.



# FROM PARCHED TO PARADISE

## SEE HOW WATER RECYCLING IS CHANGING THE FACE OF SOUTHERN CALIFORNIA

How did a vast and arid territory the size of Los Angeles County turn into neighborhood after neighborhood of tree-lined streets, green lawns, landscaped parks, swimming pools, golf courses, and beautiful gardens? What allowed booming businesses and industries to take hold and attract an ever-expanding population to the region?

Unfortunately, the answer does not lie in an abundant supply of native water. Over the past century, Southern California has had to rely heavily on expensive imported water from the Owens Valley, Northern California rivers, and the mighty Colorado River to replenish its groundwater, develop industry, support agriculture, and create communities with lush landscapes.



Water recycling plays a vital role in reducing the area's dependence on imported water from remote, drought-impacted rivers. Recycling our finite water supply versus importing far-off sources is a more responsible and efficient method of quenching the thirst of drought-prone Southern California. More than 90 million gallons per day (100,000 acre feet per year) of wastewater from the Sanitation Districts' service area is reused. Of that amount, more than half goes to recharging the groundwater supply, which could otherwise be overdrawn in drought conditions. The remaining half is distributed to reuse sites such as golf courses, nurseries, schoolyards, parks, industries, and more. Today, the Sanitation Districts produce more recycled water that is beneficially reused than any other single recycled water producer in the United States.

# RECYCLED WATER PUMPS UP THE QUALITY OF LIFE IN SOUTHERN CALIFORNIA

The recycled water produced by the Sanitation Districts is sold through local public and private water suppliers. A network of purple pipes and pumps delivers the recycled water throughout Los Angeles County. These colorful purple pipes add more than just a splash of green to the landscape. This reliable and affordable source of high-quality water helps to stabilize the region's economic base and protect its environment.

## WHERE DOES IT GO?

The California Department of Public Health oversees the distribution of recycled water and has approved it for a wide variety of uses. More than 750 local reuse sites benefit from this "newly created" water supply, including schoolyards, nurseries, parks, golf courses, and environmental habitats. Other applications include freeway landscaping, agricultural irrigation, fire fighting, water supply for livestock, industrial reuse, toilet flushing, make-up water for cooling towers, street cleaning, and much more.



Apollo Park, Lancaster



Wilderness Park, Downey



Greenbelts

## HOW DOES IT HELP?

Today, recycled water supplements existing supplies and allows local agencies to provide recycled water at prices lower than potable water. Businesses and industries receive a less costly, dependable water supply, providing them with an incentive to remain in Southern California. This adds to a healthy economic climate. Public areas such as parks, golf courses, schools, and roadway greenbelts stay green even during droughts, enhancing the quality of life for neighboring residents. Producing water locally also helps save energy by not having to pump as much imported water over the mountains into the basin. These energy savings result in less air pollution and greenhouse gas production, which improves air quality and helps everyone breathe easier.



## A PROMISING FUTURE

The evolution of proper sanitary practices, including wastewater management, has virtually eliminated water-borne disease in the United States and contributed to a longer life expectancy. The Sanitation Districts are at the forefront of research and technology that ensure public health and safety. Years of ongoing testing and monitoring have shown that the Sanitation Districts' tertiary-treated recycled water is virtually free of pathogenic virus, essentially meets state and federal drinking water standards, and is so clean that it is virtually indistinguishable from tap water.

That's good news for Southern California, where the water supply must serve a population that is increasing, knowing that future droughts will continue to reduce fresh water reserves. The Sanitation Districts' unique ability to replicate nature through state-of-the-art technologies ensures that they can help the region meet its growing needs for a safe and reliable water supply.



***Converting Waste Into Resources***



SANITATION DISTRICTS OF LOS ANGELES COUNTY

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the Sanitation Districts'  
programs.

1955 Workman Mill Road, Whittier CA 90601  
Telephone (562) 908-4288, ext. 2301